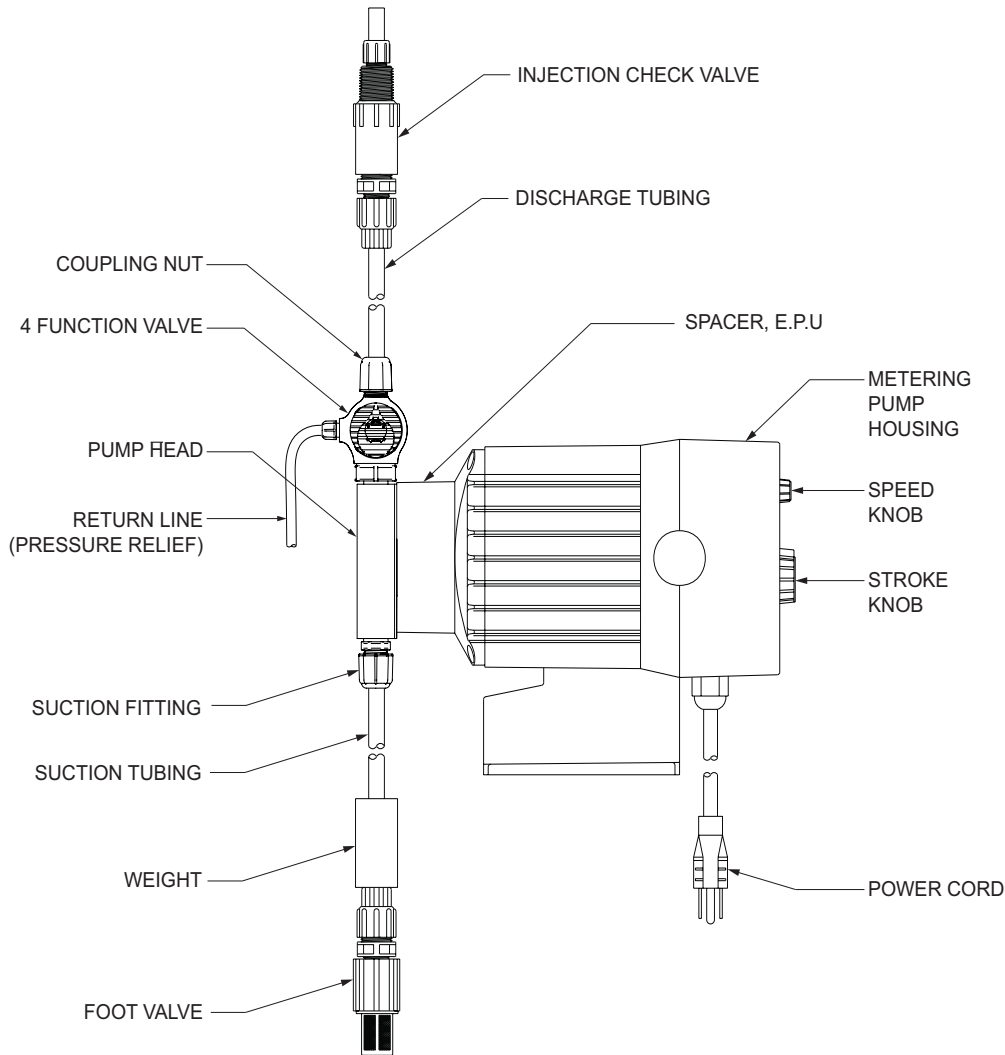




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Metering Pump Component Diagram

## Series B1

# Electronic Metering Pump

## Specification Sheet and Assembly Details

Manual No : 1034, 1828

Rev. : H, C

Rev. Date : 6/09, 10/2015

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# Specification Sheet

## Series B

### GENERAL

Chemical metering pumps shall be positive displacement, Liquifram™ type pumps that are UL and CUL approved. Output volume shall be adjustable while pumps are in operation from zero to maximum capacity of:

- B11, B71, B91 - 1.6 GPH (6.1 liters per hour)
- B12, B72, B92 - 2.5 GPH (9.5 liters per hour)
- B13, B73, B93 - 4.5 GPH (17.0 liters per hour)
- B14, B74, B94 - 7.0 GPH (26.5 liters per hour)

Chemical metering pumps shall be capable, without a hydraulically backed diaphragm, of injecting solutions against pressures up to:

- B11, B71, B91 - 150 psig(10.3 bar)
- B12, B72, B92 - 100 psig(6.9 bar)
- B13, B73, B93 - 50 psig(3.4 bar)
- B14, B74, B94 - 30 psig(2.1 bar)

### SERIES B1

Adjustment shall be by means of readily accessible dial knobs, one for changing stroke length and the other for changing stroke frequency. Both knobs are to be located opposite the liquid handling end.

### SERIES B7

Control of Series B7 metering pumps shall be selectable between internal and external pulsing by means of a 3-position center-off switch. Stroke length shall be adjustable by means of readily accessible dial knob. When in external pulsed mode, Series B7 units shall accept signals without the use of electrical timer or internal timer. Pressure capacity shall be adjustable to reduce noise, vibration and wear.

### SERIES B9

Series B9 metering pumps shall have a clear liquid crystal display. Control shall be selectable between internal and external pulsing by means of a tactile keypad. Internal stroke frequency shall be adjustable from 1 stroke per hour to 100 strokes per minute. Pressure capacity

shall be keypad adjustable to reduce noise, vibration and wear. Metering pump shall be capable of dividing or multiplying pulse inputs from 1 to 999 or responding directly or inversely to a 4-20mA input signal.

### DRIVE

The pump drive shall be totally enclosed with no exposed moving parts. Solid state electronic pulser shall be fully encapsulated and supplied with quick connect terminals at least 3/16" (4.75 mm) wide. Electronics shall be housed in chemical resistant enclosure at the rear of the pump for maximum protection against chemical spillage. Electrical power consumption shall not exceed 29 watts per hour under full speed and maximum pressure conditions. Pump weight shall not exceed 15 lbs (6.9 kg).

### AUTOMATIC PRESSURE RELIEF

To eliminate need for pressure relief valve, Liquifram™ shall automatically stop pulsating when discharge pressure exceeds pump pressure rating by not more than 35%.

### MATERIAL

Chemical metering pump housing shall be of chemically resistant glass fiber reinforced thermoplastic. All exposed fasteners shall be stainless steel. Chemical metering pump valves shall be ball type, with ceramic balls<sup>1</sup>. Valve seat and seal ring shall be renewable by replacing the combination seat-seal ring<sup>2</sup> or cartridge valve assembly. Pump head shall be of transparent acrylic<sup>3</sup> material capable of resisting the pumped chemical. Fittings and connections at pump head shall be PVC<sup>4</sup>.

### CHECK VALVES AND TUBING

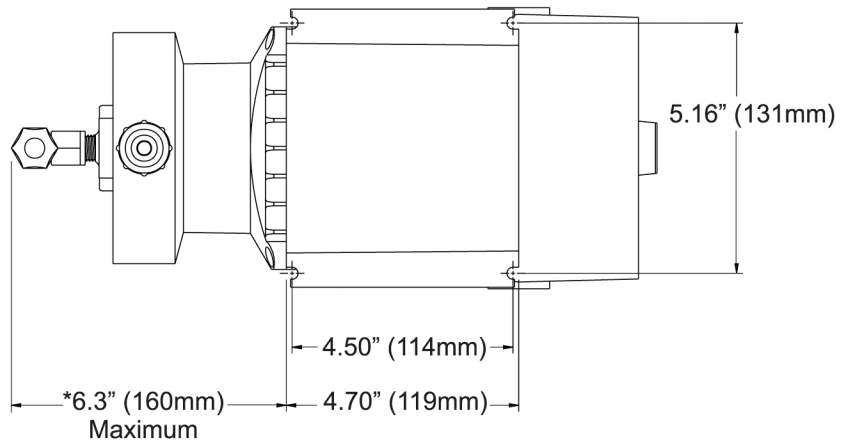
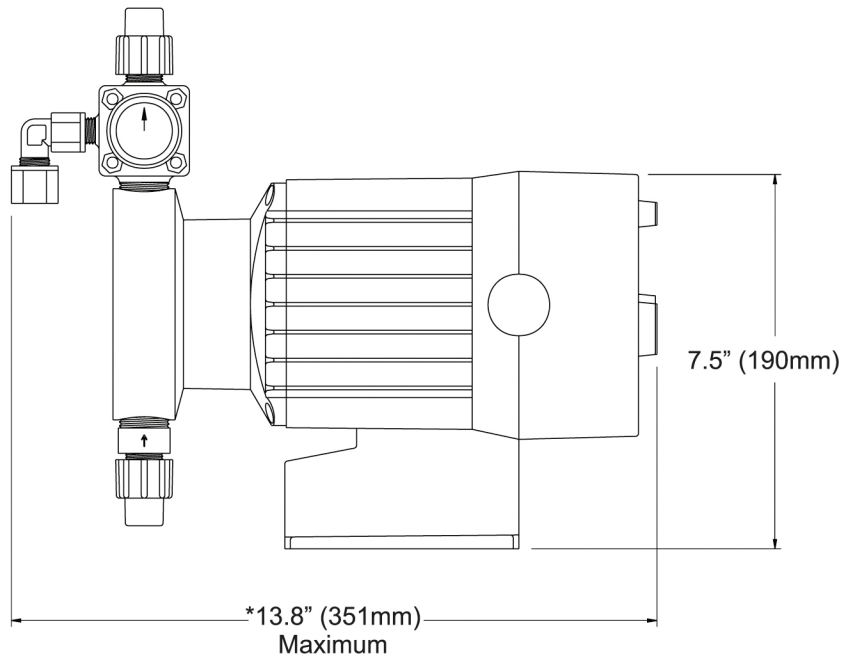
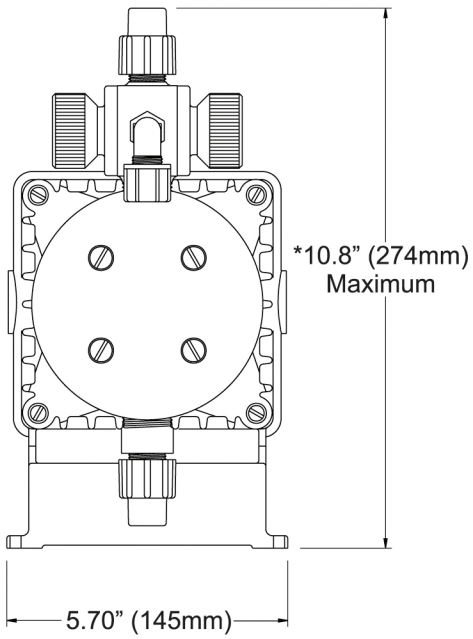
A total of 16 ft (4.8 m) of polyethylene tubing<sup>5</sup> shall be provided per pump complete with compression connections. A foot valve with integral one piece strainer shall be provided for the suction line, and an injection/back pressure check valve with 1/2" NPT male connection for the injection point. The injection check valve shall incorporate a dilating orifice which prohibits scale formation and accumulation of crystalline deposits.

### Notes:

1. Type 316 stainless steel or PTFE may be specified.
2. Hypalon®, PTFE or Polyprel® may be specified.
3. PVDF, PVC, Polypropylene, or Type 316 stainless steel may be specified.
4. PVDF, Polypropylene, or Type 316 stainless steel may be specified.
5. 6 ft (1.8 m) of vinyl suction tubing may be specified in place of polyethylene for the suction side only. 1/4" or 1/2" pipe thread may be specified.

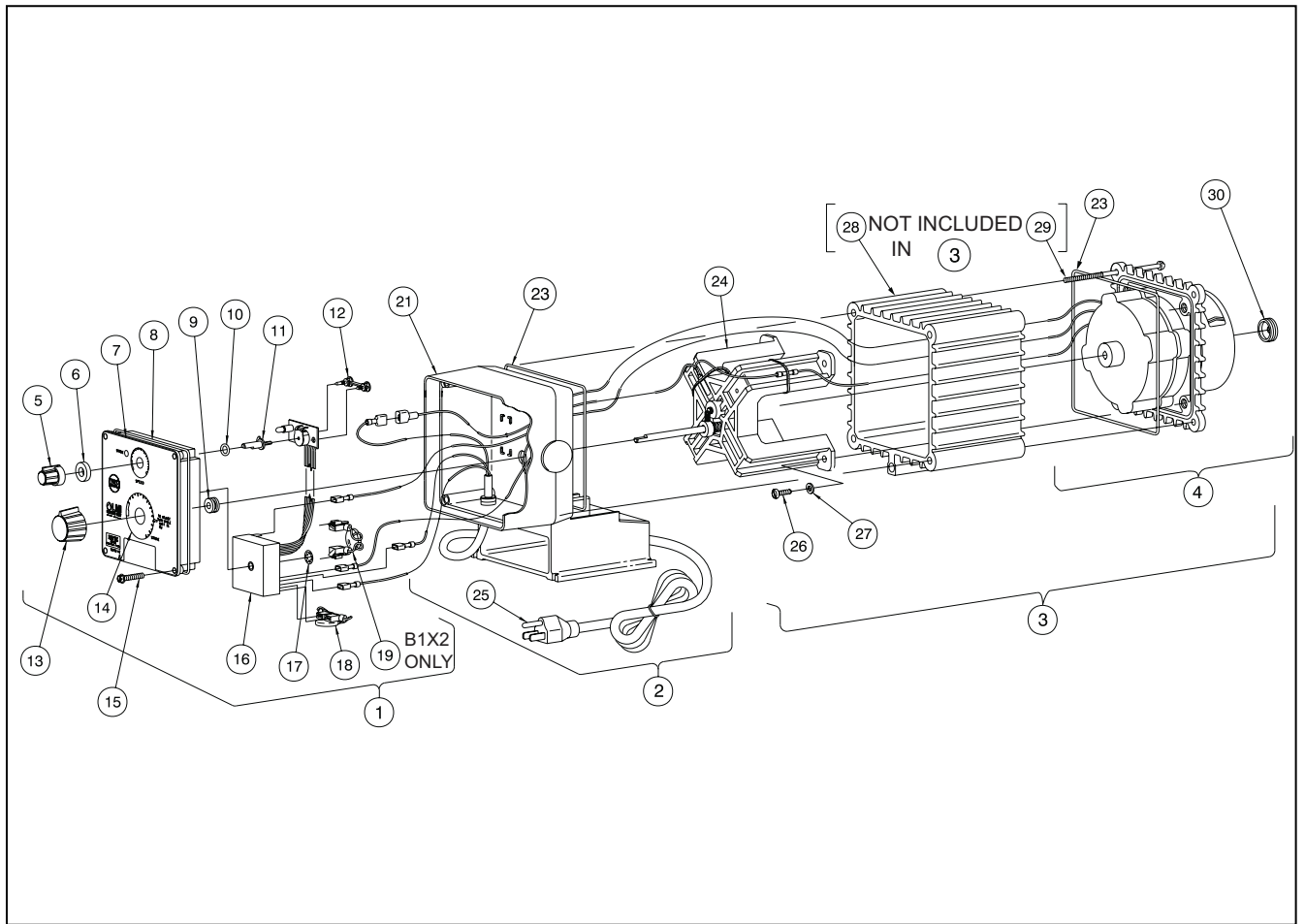


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\*Dimensions shown are maximum for largest liquid end available. These dimensions vary depending on the liquid end selected.

# SERIES B1 DRIVE ASSEMBLY EXPLODED VIEW DIAGRAM



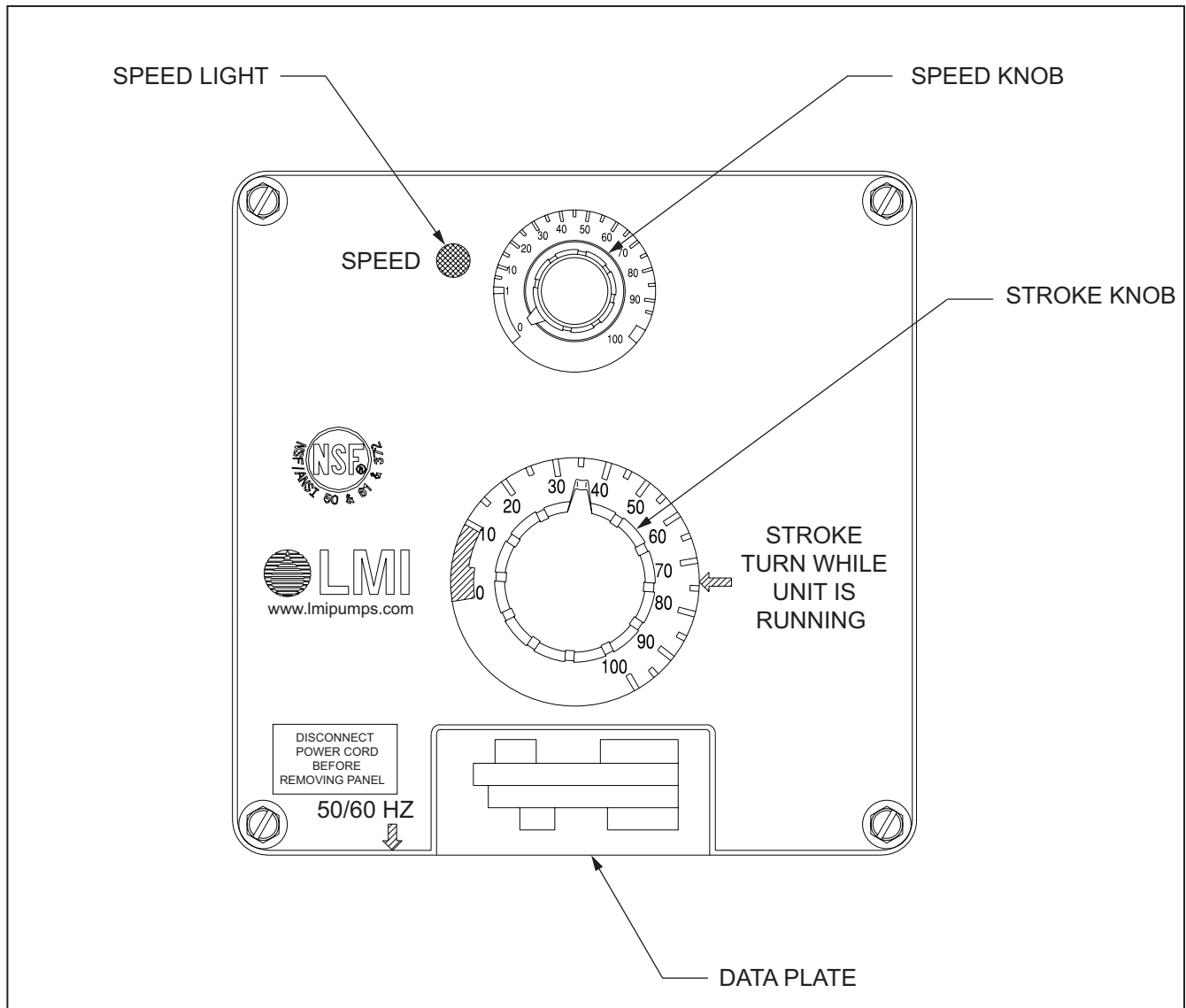
## SERIES B1 DRIVE ASSEMBLY PARTS LIST

Key Number	Model Series	Part Number	Description	Qty
1	B111	36234	Control Panel Assembly, 115V	1
	B112	36235	Control Panel Assembly, 230V US	1
	B113, B115, B116, B117	36236	Control Panel Assembly, 230-250V	1
	B121, B131, B141	36229	Control Panel Assembly, 115V	1
	B122, B132, B142	36230	Control Panel Assembly, 230V US	
	B123, B133, B143, B125, B135, B145, B126, B136, B146, B127, B137, B147	36231	Control Panel Assembly, 230-250V	1
2	B111, B121, B9131, B141	26087	Housing Assembly, 115V	1
	B112, B122, B132, B142	26088	Housing Assembly, 230V US	1
	B113, B123, B133, B143	26089	Housing Assembly, 230V DIN	1
	B115, B125, B135, B145	26819	Housing Assembly, 240V UK	1
	B116, B126, B136, B146	26820	Housing Assembly, 250V AUST	1
	B117, B127, B137, B147	28256	Housing Assembly, 230V SWISS	1
3	B111, B121	31927	EPU & Spacer Assembly w/Stroke Adj., 115V, 0.9SI	1
	B112, B122, B113, B123, B115, B125, B116, B126 B117, B127	31928	EPU & Spacer Assembly w/Stroke Adj., 230V, 0.9SI	1
	B131	31929	EPU & Spacer Assembly w/Stroke Adj., 115V, 1.8SI	1
	B132, B133, B135, B136, B137	31930	EPU & Spacer Assembly w/Stroke Adj., 230V, 1.8SI	1
	B141	31931	EPU & Spacer Assembly w/Stroke Adj., 115V, 3.0SI	1
	B142, B143, B145, B146, B147	31932	EPU & Spacer Assembly w/Stroke Adj., 230V, 3.0SI	1
4	B111, B121	26893	EPU & Spacer Assembly, 115V, 0.9SI	1
	B112, B122, B113, B123, B115, B125, B116, B126, B117, B127	26894	EPU & Spacer Assembly, 230V, 0.9SI	1
	B131	26897	EPU & Spacer Assembly, 115V, 1.8SI	1
	B132, B133, B135, B136, B137	26898	EPU & Spacer Assembly, 230V, 1.9SI	1
	B141	29618	EPU & Spacer Assembly, 115V, 3.0SI	1
	B142, B143, B145, B146, B147	29619	EPU & Spacer Assembly, 230V, 3.0SI	1

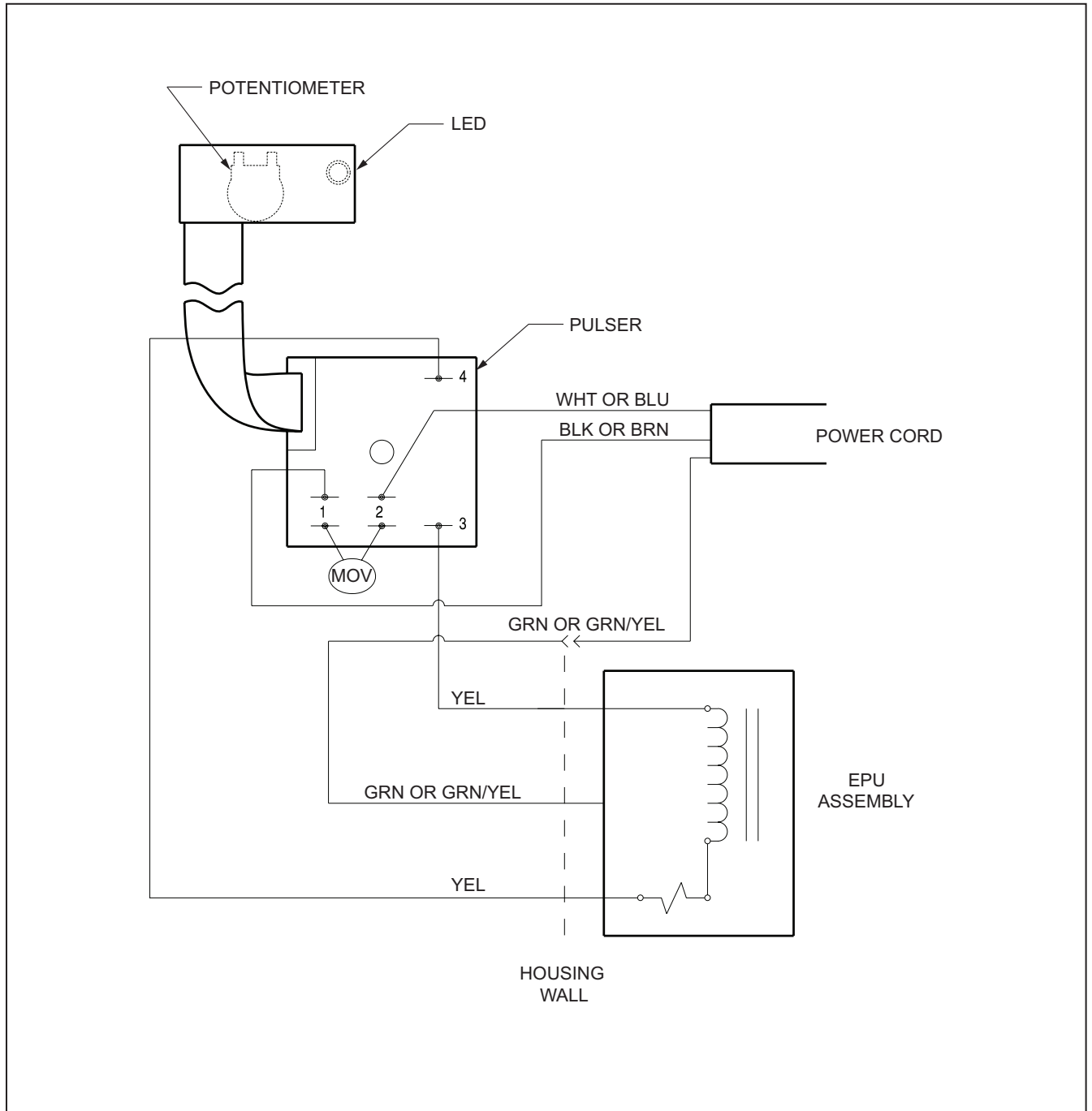

**SERIES B1 DRIVE ASSEMBLY PARTS LIST**

Key Number	Model Series	Part Number	Description	Qty
5	B1	30709	Speed Knob	1
6	B1	30803	Gasket	1
7	B1	36256	Panel with Nameplate	1
8	B1	10166	O-Ring	1
9	B1	10465	Grommet	1
10	B1	34497	O-Ring	1
11	B1	35743	Speed Shaft	1
12	B1	35744	Dual Pin	1
13	B1	31891	Stroke Knob Assembly	1
14	B11	25882	Stroke Dial	1
15	B1	30306	Screw	4
16	B1	36255	Pulser	1
17	B1	10422	Retaining Ring	1
18	B111, B121, B131, B141	10626	Varistor Assembly, 115V	1
	B112, B122, B132, B142, B113, B123, B133, B143, B115, B125, B135, B145, B116, B126, B136, B146, B117, B127, B137, B147	10627	Varistor Assembly, 230-250V	
19	B112, B122, B132, B142	25268	Power Cord, 230V US	1
21	B1	35398	Housing	1
23	B1	35269	O-Ring	2
24	B1	31898	Stroke Adjustment Assembly	1
25	B111, B121, B131, B141	26293	Power Cord Assembly, 115V	1
	B112, B122, B132, B142	26296	Power Cord Assembly, 230V US	1
	B113, B123, B133, B143	26297	Power Cord Assembly, 230V DIN	1
	B115, B125, B135, B145	26817	Power Cord Assembly, 240V UK	1
	B116, B126, B136, B146	26818	Power Cord Assembly, 250V AUST	1
	B117, B127, B137, B147	27701	Power Cord Assembly, 230V SWISS	1
26	B1	10598	Screw, 10-24X0.62 SS	4
27	B1	10415	Washer, Conical	4
28	B1	25068	EPU Sleeve	1
29	B1	25127	Screw, 10-24X4.5 SS	4
30	B1	10973	Seal	1

# SERIES B1 CONTROL PANEL DETAIL



# SERIES B1 WIRING DIAGRAM





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